

ARCHITECTURE

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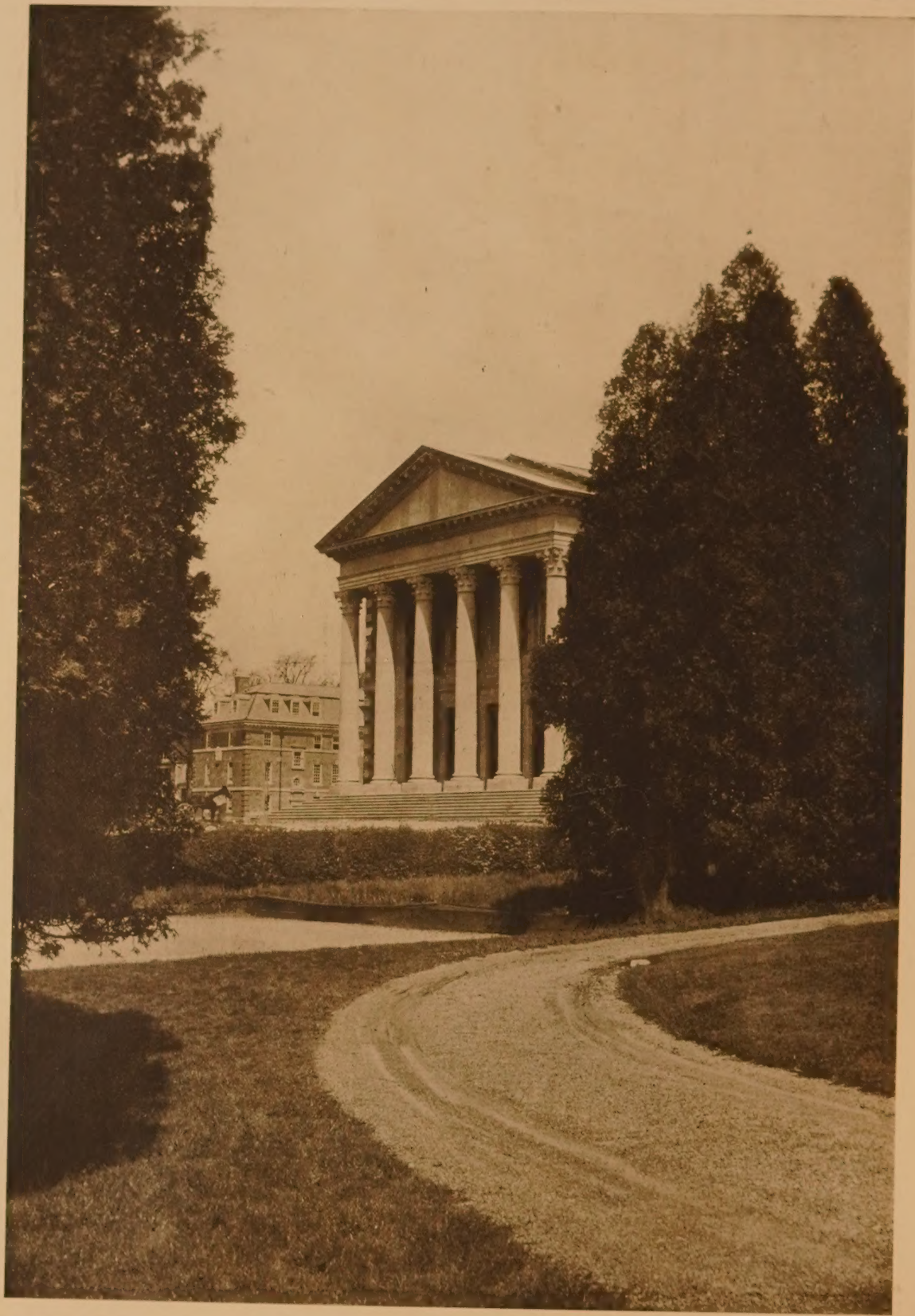
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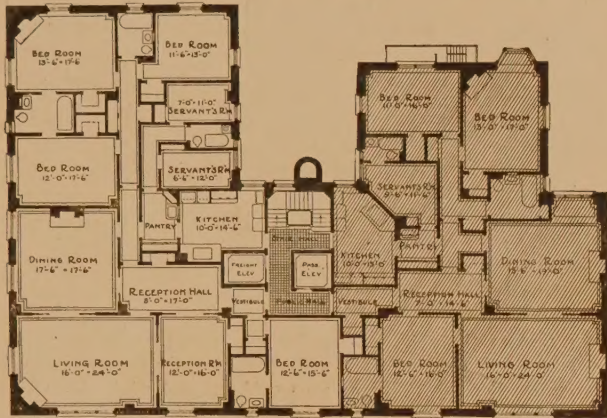
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PENNSYLVANIA STATE ASSOCIATION, 1909.—President, Edward Stotz, Pittsburgh. Secretary, Richard Hooker, Pittsburgh.



GRACE HALL, WILLIAMS COLLEGE, WILLIAMSTOWN, MASS.

Cram, Goodhue & Ferguson, Architects.



TYPICAL FLOOR PLAN, APARTMENTS, WEST END AVE AND 86TH ST., N. Y.
Mulliken & Moeller, Architects.

ARCHITECTURAL CRITICISM.

ANOTHER one of these splendid single lot store buildings that affords an interesting expression of current American architecture is the Black, Starr & Frost Building (Plate CV). It follows in line with Gorham's, Tiffany's and Dreicer's and adds strength to the assertion that the jewelers in New York are leading the way, or at least dividing honors with the cafe and restaurant owners, in developing the street architecture of our American cities. This particular example is first a jewel box and then a store building and it surpasses all the rest. It is of the most exquisite type of French architecture; small in scale, delicate and refined, and beautifully executed. The decoration of the frieze above the windows of the first story and the attic story, in low relief, is beyond criticism. The orders have been applied, not as constructive members, but purely as light plastic decoration which is their only logical use in modern methods of construction. The office of Carrere & Hastings has produced nothing better since the Florida hotels.

CONSIDERED from an architectural viewpoint, the Manice Building, Wallis & Goodwille, architects, Arthur Loomis Harmon, Associate, (Plates CVIII and CIX), may be placed at the head of the loft building class. It demonstrates better than anything we can recall how excellent results are obtained by the introduction of a new thought on an old problem. The architects of this building were almost untried in work of the loft building type. With the infusion of original ideas and the advantage of having no former work to influence the study of the subject in hand, it was possible to arrive at a solution satisfactory to both the artistic and commercial mind. So eminently satisfying, in fact, that the renting space was quickly taken up in preference to the numerous other lofts in the immediate neighborhood. It is interesting to note the way in which the base of the pylons at the corners has been splayed out, following the example of some of the old Genoese palaces. The most beautiful features are the entrance doors, in delightful detail, and the ornamental band, carved in low relief, at the third story level. It was necessary to give all windows equal glass areas, but no monotony exists in the window treatment. This has been obviated by placing the third story in the band (above mentioned), treating the third to the ninth stories as a plain field and putting the upper two stories in the white terra cotta attic with columns

between piers. The cornice is of wide Italian or Spanish type, executed in copper. Here the usual fault applies in that the cornice has not sufficient solidity to form a substantial crown for the rest of the building. Such criticism may be a matter of personal opinion and, even so, it is one small point against a work of exceptional merit as a whole.

IT is unfortunate that a better photograph cannot be presented at this time of the University of Texas Library, Cass Gilbert, architect (Plates CX-CXIII), as the building will doubtless look less hard and rigid when the shrubbery softens the lines of the building at the ground. The library is of rather unusual design for Mr. Gilbert's office. It seems the right sort of rendition of a Spanish motif adapted to American needs. The style is not archaeologically Spanish, but sufficiently reminiscent of Spanish work to suit its location in what was formerly a Spanish province. It is possible that a further projection of the base would have improved the general appearance, but again, the planting will make up for this apparent deficiency. The writer believes that the roof would be better if it had been made slightly steeper. The building can be judged more fairly by the elevation and details which are published with the photograph.

THE estate of C. A. Coffin, Locust Valley, L. I., Howard Greenley, architect (Plates CXIV-CXVI), consists of about 150 acres located at Locust Valley, L. I. Half of the property to the north is quite thickly wooded; the balance is practically denuded of trees, having been used by the previous owner for agricultural purposes. The style of the house is the usual country house evolved from ancient models and largely developed in England during recent years. Perhaps unconsciously, the individuality of the architect has modified the English feeling and has produced a type of distinct American character. The main house is constructed in a substantially fireproof manner, the walls and floors being of terra cotta hollow tile, with a stucco exterior and a tile roof. The interior trim is of wood. The general style of the house has been carried out in the group of buildings devoted to the various departments of the Estate: stables, garage and cottages for chauffeur and gardener. This group, with the exception of the garage, is non-fireproof—with or without reason. On account of the length of the house, it is probable that the exterior would have been improved if brick instead of stucco had been used, but the ultimate covering of the walls with vines will render this consideration more or less negligible. The arrangement of the plan was largely indicated by the owner, as well as the decoration and furnishing of the interior. The architectural treatment of the rooms is in excellent taste. In addition to the buildings herein illustrated, there are stables, barns, greenhouses, and a bungalow built in the woods with a very unusual forest garden containing hundreds of varieties of flowering trees and shrubs. The planting has been unusually fortunate in results and it is remarkable that in one year's time an extraordinary garden development has been secured about the house. The estate shows a well studied and comprehensive plan and does credit to a locality already favored with architectural wealth.

OUR CONTEMPORARIES ON REVIEW.

TO THE EDITOR OF ARCHITECTURE:

DEAR SIR—

There is one thing I miss in ARCHITECTURE and that is the critical review of the other magazines which seems to be



I. BRICK DRIVEWAY APPROACH.

the proper thing now-a-days. I would suggest that, following the habit usual in the current press, you might have in every month a review of the periodicals, running perhaps somewhat as follows:

The *Bricklayer* for May, 1914, is at hand, and as usual with this magazine it is unfortunately limited in its choice of subjects to buildings of materials which assist its advertising, it being notorious that this magazine carries none. Had these buildings been executed in other than brick, terra cotta or stucco, or whatever they were executed in, they might be better. As it is the best of them is a monumental fountain in colored faience by Messrs. Gruby & Rookwood, which is doubtless familiar to all readers of *ARCHITECTURE* through its appearance in a recent number of this magazine, and a railroad station in Oshkosh, Ind., by Messrs. McFinn, Freed & Frite. In criticism of this station we might say that it covers a great deal of ground and has trains running into it. Other buildings insufficiently presented are an office building at Seattle by Beadleston & Woerz, two apartment houses by Piel Brothers, Inc., and an uninteresting though inoffensive brick and terra cotta church at Atlanta, Ga., by V. Van Dyck Brown. The text includes an article on brick making in the brick ice cream factories and an instructive and valuable continuation of the series of twelve articles on the heating, lighting and ventilation of chicken houses.

The *Architectural Wrecker* for May, 1914, contains its usual series of buildings of considerable age, and therefore familiar to all readers of the current architectural press, but as it is the policy of this magazine to publish old work, we suppose it is the policy of this magazine. The only building which has already escaped our notice is an interesting, though commonplace structure for the Black Short Haired Cattery at Katonah, N. Y., which will be familiar to our readers if they will examine our advertising pages in the back. The text articles contain a continuation of the series of American College buildings by Mightygyummy Scholar. We must confess that these articles have opened our eyes to the multiplicity of American colleges. This number takes up Tuskegee, Hampton and others in the black belt. An article on architectural autographs follows which should be of interest to the young draftsman. Omar Huckleberr's 11. continues to continue his series on Any American Churches, which we trust he some day intends to publish in book form, because then it will be ended.

The *Architectural Purview* for October, 1913, has just come to hand. This magazine is beautifully printed and well mailed. We regret to find this magazine has copied our monthly criticism, and also regret to find this criticism so narrow in spirit and cussed in its views. We cannot understand how any other critic can dissent from our opinions on any subject, and we decline to further continue our undignified argument. The illustrations comprise a very beautiful series of old photographs of the Monument to the Beaux Arts by H. Van Purring

Magoniggle; an excellent view of the new library designed by Career & Wastings, which as it only shows the fence around the excavation, was, to say the least, published prematurely, a regrettable circumstance evidently inspired by a desire to beat *ARCHITECTURE* to it. Some insignificant country houses by various country house architects, such as Charles A. Flatt, Alto & Tenorberg and others of our lesser known architects follow.

The *Afro-American Architect* in the issues of April 15, 22, 29, and May 6, 1914, continues its series of articles on the Bane of Glass, and its necessity in order to get light into buildings without letting heat in. We leave our readers to judge for themselves as to its utility. The number of April 15 has illustrations of a number of things but the most interesting thing about this number is the advertising pages which are already familiar to our readers through their publication in *ARCHITECTURE*. The number of April 22 contains an illustration of the Caruso Monkey House in Central Park, and we would say that while *ARCHITECTURE* believes in fully publishing all the useful details of every building, we have never yet been able to devote the space (since we are a monthly magazine) to the complete publication of a building down to the full size details of the door key holes and the lock construction that the *Afro-American Architect* has been able to give in this number.

We hope that this is not because they did not have any better material. The editorial comment is as usual much to be commended, especially as regards its criticism of the levity displayed in the recent proceedings of the Afro-American Institute of Architects, in which a member was heard to speak in a humorous vein and some members laughed.

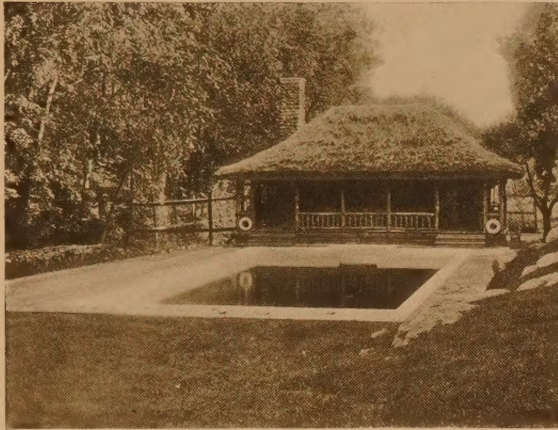
We trust they were only Associates and not Bellows of the Institute. With the *Afro-American Architect* we believe that the profession of architecture is too serious a thing to ever kid about, and we shall do our utmost to support *The Afro-American Architect* in *The Afro-American Architect's* position. We regret not to be able to give further space to a discussion of the numbers of the 29th and May 6, but we feel we have already advertised *The Afro-American Architect* enough.

The *Occidental Architect* for May, 1914, contains its customary series of occidental buildings which are not interesting to the readers of this magazine because of their incidental occidental character. Turning to the foreign magazines we are glad to be able to give them hearty commendation without fear of injuring our circulation. As usual "Moderne Cowformen," of Stuttgart, leads the field with the wonderful series of illustrations of the pyrotechnic curves of the New Artskellar School, the Dutch have at least introduced something a little original into the architectural world. Our architects may not like to, and certainly won't but nevertheless we can recommend it, because as above stated it does not injure our circulation.

The *Architectural Purview* of London, contains a beautiful series of illustrations hitherto unpublished in this country and



II. UNUSUAL ARRANGEMENT FOR GATEWAY.



III. SECLUDED OUTDOOR SWIMMING POOL.

likely to remain so, and a series of famous English country houses by H. Bally-Shot, and others of the Shot, and Half-Shot School. The plans accompanying them will be of special interest to American Architects because of their ingenious arrangement for the care of coals, and the excellently planned scheme adopted in all Mr. Bally-Shot's houses by which in order to prevent the smell from the kitchen entering the dining room, to completely shut off the dining room by the reception and with-drawing rooms and gun room.

The London Builder is as one might expect from its title a magazine devoted to buildings of which a number are illustrated and take up quite a lot of pages, of which we like some better than others and others better than some.

I sincerely hope that you will find some one able to furnish you with such enlightening criticism as the above, and if I may venture a serious word to ARCHITECTURE, I would say that such criticism might be substituted for the criticism you now publish of work illustrated in your own magazine without the lasting regret of the profession.

Yours very truly,

VII.—METHODS OF CONSTRUCTION.

CHARLES W. LEAVITT, JR., LANDSCAPE ARCHITECT.

AFTER the design has been completed and before it is presented to the client, one should think out how the work may be done. This will bring out the practical value of the plan. Should it be found that the plan calls for a construction unusually expensive or that the cost is scarcely justified by the results to be obtained then one should not present the design but seek to find some means of modification or rearrangement that will give a more satisfactory result.

There is almost always more than one way to accomplish a piece of work, and the method to be adopted must be selected by the landscape architect after a thorough canvas of the data presented. A familiarity with construction work is most important that a wise decision may be made in selecting the method to be adopted for any particular work. This knowledge of construction work can only be acquired by observation, for while we may read of great works which are most wonderfully described and illustrated by many photographs taken as the work proceeds, yet one cannot obtain a real comprehension of what is going on without being out on the work and in some responsible position which will necessitate careful thought.

Every opportunity should be availed of to see any work

which may be in progress, for though it may not bear directly on the work in hand yet one may grasp certain methods which will be of great assistance in solving some difficulty which may come up. Frequently there is some problem which comes before us for solution and there may be no definite established method for doing the work, in which case it is necessary to devise something that will do this work in a satisfactory manner. By considering the various methods with which one has become familiar one can generally invent something or form a combination that will be satisfactory for the work. Frequently, conditions arise during the course of construction which have not been foreseen when drawing the plans. Such a state of affairs is, of course, unfortunate as it usually leads to extra expense for which the client is unprepared and which is apt to be irritating and bring the landscape architect under criticism and make trouble generally. From this will be seen the necessity for carefully thinking out the method of construction while the plan is being formed, and not overlooking any condition which may arise during the course of the work.

On the other hand one cannot reasonably cover everything by the plan and specifications without perhaps assuming that many things might happen where there is very little likelihood of such trouble developing, and one obtains an unreasonable price from the contractor and so put the client to unnecessary expense.

In looking over some old books upon engineering subjects I have found cuts of machinery which is so similarly arranged to that which is to-day in use that the comparison is ridiculous. We think we have advanced, and so we have to some extent, but when you find that the same general method of pumping water from the Nile in the time of the Pharaohs is in practical use to-day in our country you begin to think that nothing is new and when we assume that we invent we frequently find that we are using some old established method. There is nothing wrong in so doing, and happy is the man who knows enough of these old methods to be able to bring them into use as the occasion demands. Such a man is well equipped to carry on his professional practice and look out for his clients interests.

In landscape work the principal things to become familiar with are in the first place handling earth and knowing how to classify it as top soil, loam, subsoil, sand, clay, hard pan, boulders, ledge rock, etc. These elements you will want to use in working up your lawns, drives, walls,



IV. ARTIFICIAL BROOK THROUGH FORMER SWAMP.



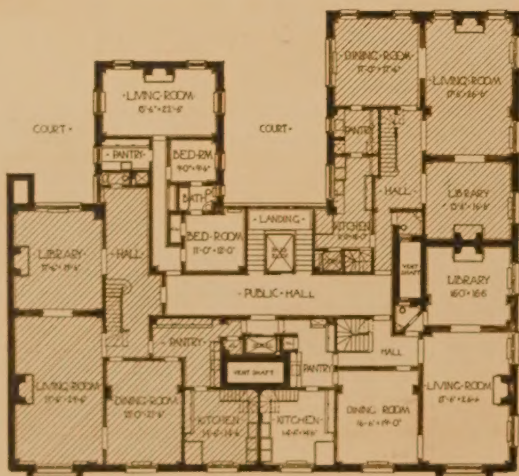
beaches, ponds, tennis courts, planting areas, etc. There is almost always some earth to be removed in every landscape problem.

The next thing is to be able to utilize all that may come out of the excavation in doing the work required. And then to be able to secure such materials and labor that may be necessary to accomplish the work in the most economical manner and yet obtain the best quality in all you purchase.

It may be possible to build a house in a very cheap way and have it practical and sufficiently durable, but when you come to doing work that the elements can attack and destroy you cannot afford to put in anything but the best; otherwise, in a most incredibly short time your work will go to pieces. Cheap work in the garden is not to be tolerated by any one wishing to continue in practice. Clients will forget and forgive a large expenditure but never a poor piece of work where the best has not been availed of, and the result is disaster and destruction.

To take up a few of the most common examples of what one is called upon to design and construct and the method of construction I would mention the grading, drainage and paving of roads, drives, streets and walks. The first principle of road construction is to provide a roadbed free from water as it is impossible to maintain a road which is subject to heavy travel if water is not kept out of it. The location should be so planned as to divert as much surface water as possible away from the road as a road is usually more or less of a barrier to the natural drainage. It is usually necessary to provide ditches with culverts and catch basins to lead off the natural flow and to catch and dispose of the water which falls upon the road itself. It is always wise to provide catch basins to intercept sand, stones, etc., before allowing water to flow into and through a pipe as in this way the pipes are kept free from an accumulation of debris which is caught in the basin and may be easily removed.

The roadbed should be formed to the exact crown which it is desired to give the final pavement so that the pavement can be laid on in a uniform layer. This roadbed or foundation should be rolled and made compact before



APARTMENT HOUSE AND PLANS, 925 PARK AVE., NEW YORK.

Delano & Aldrich, Architects.



placing the pavement upon it and no soft places should be left which may afterwards give way beneath the pavement and so cause settlements.

The pavement may be of gravel, macadam, telford, concrete, asphalt, wood, etc., or granite block, brick, or a combination of telford and certain tar, oil or bituminous compositions. The roadway for horses should be of a material that will chip up with a horses' hoofs but will bind down to make a permanent pavement. For motor traffic the pavement should be smooth, hard and tenacious, something that the suction of the tires will not disintegrate or the heavy loads crush or wear out or destroy. These various pavements should be carefully studied and a variety selected suitable for the purpose for which it is required. The grade of the road should be as easy as possible and not over 10 per cent. in extreme places and usually not over 6 per cent. Sod gutters should not be laid on roads with grades of over 6 per cent.; on heavier grades the gutters should be paved with stone or some other durable material as otherwise they will wash. If possible, the grade of the road should be kept slightly below the surrounding lawns and fields so it will not become too prominent a feature of the landscape.

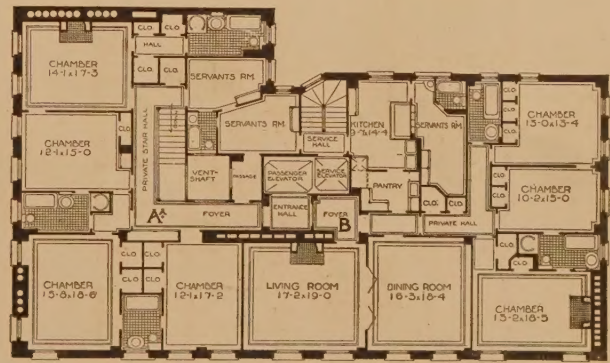
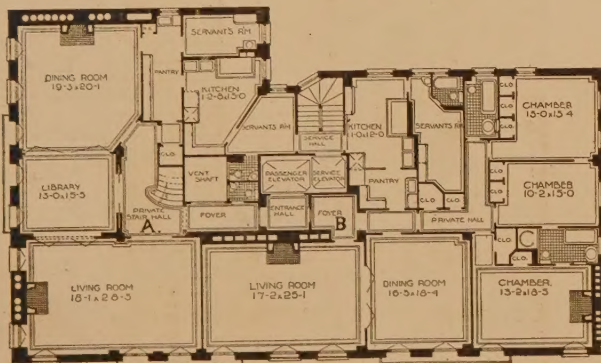
In making lawns it should be borne in mind that there should be a sufficient depth of topsoil and subsoil under it to retain the moisture over dry periods. If this is not provided the lawn will burn up and appear brown and disagreeable in midsummer. Wherever rock crops out it is best to take it down to a depth of at least 1 foot below the surface of the lawn or let it stick up boldly above the surface as a feature. If there is a good depth of subsoil, from 4 to 6 inches of topsoil is sufficient, though more is better; into this topsoil manure and fertilizer should be worked just before the seeding takes place.

Great care should be exercised to have clean fresh grass seed, and it should be evenly spread and rolled in so that the wind will not carry it away as it is very light and ought to be put on at a time when there is practically no wind.

The time for seeding lawns is April and May and August and September. It is preferable to do it in the latter period and keep the ground fallow during the summer and sprout as many of the weed seeds as possible.

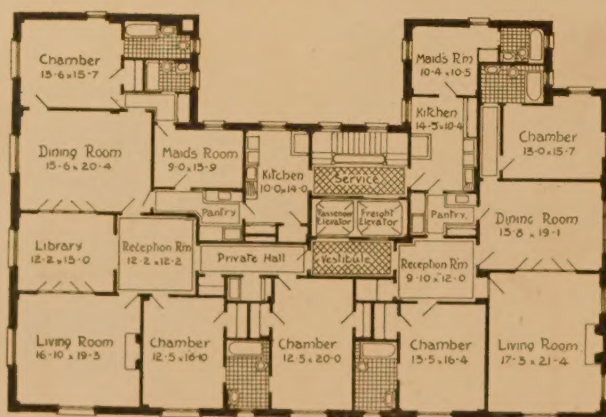
The question of construction of bridges, summer houses and various features of the landscape is too diversified a

(Continued page 253)

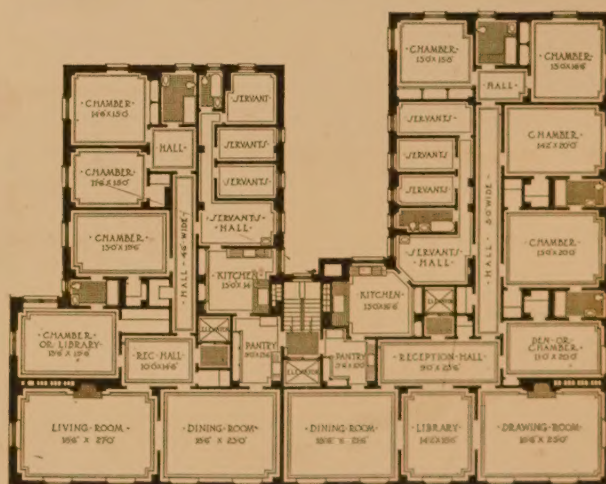


APARTMENT HOUSE AND PLANS, 840 PARK AVE., NEW YORK.

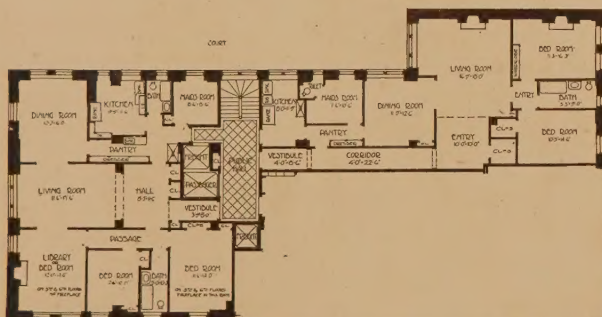
Geo. and Edw. Blum, Architects.



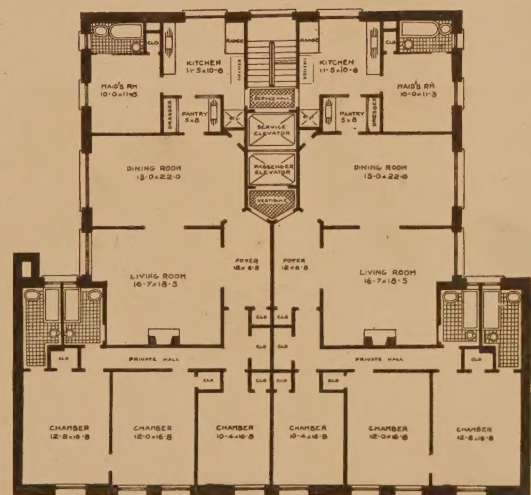
APARTMENT HOUSE AND PLAN, 515 PARK AVE., NEW YORK.
Denby & Nute, Architects.



APARTMENT HOUSE AND PLAN, 960 PARK AVE., NEW YORK.
D. Everett Waid and J. E. R. Carpenter, ASNO. Architects.



APARTMENT HOUSE AND PLAN, 535 PARK AVE., NEW YORK.
Herbert Lucas, Architect.



APARTMENT HOUSE AND PLAN, 383 PARK AVE., NEW YORK.
Albert Joseph Bodker, Architect.

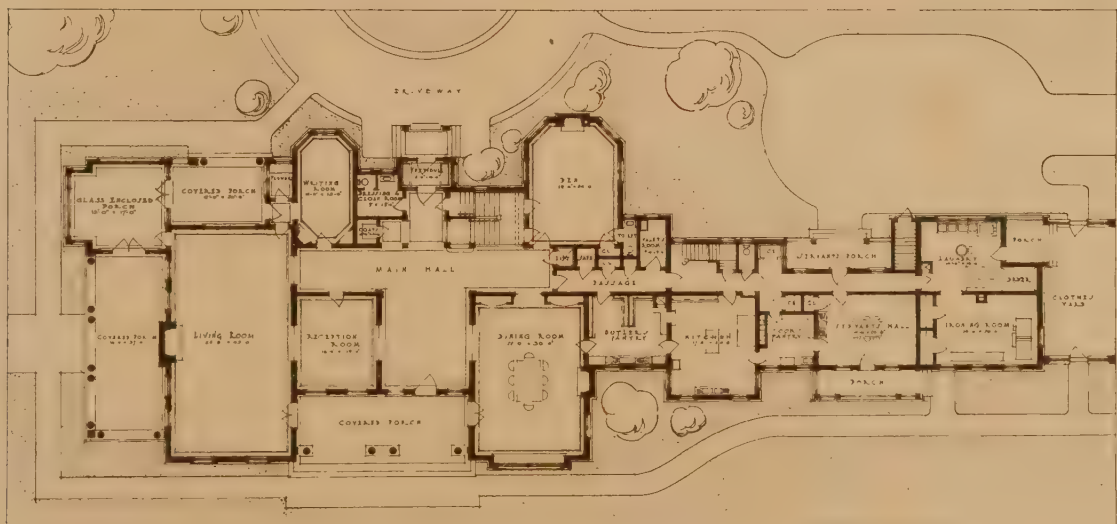


DETAILS, STORE BUILDING, BLACK, STARR & FROST, FIFTH AVE. AND 48TH ST., NEW YORK.

Carrere & Hastings, Architects.



Gardner's Cottage, Garage and Stable.



Ground Floor Plan of House.



DINING ROOM AND HALL, COUNTRY HOUSE, C. A. COFFIN, LOCUST VALLEY, L. I

Howard Greenley, Architect.

(Continued from page 247)

subject to take up at this time, but it should be noted that any features that are constructed should be carefully worked up as to their strength as well as to the esthetic side and should be done according to rules of engineering and architecture. They are often more difficult to design than a larger building as they are more exposed and are generally such prominent objects in the landscape that they should be built to very carefully studied lines. As there are definite rules and instructions covering practically all the branches that will be likely to come up in practice, I have simply taken up a few points in this paper to show the seriousness of the subject so that one may examine the construction of whatever object may be observed and familiarize one's self with the best methods to be used under different circumstances.

The arrangement for planting will be taken up in a subsequent paper.

A word might be said about terraces, which are usually built behind retaining walls and are largely dependent upon them. Few people understand the necessary strength for retaining walls and we find many failures from lack of proper strength and drainage. One of the first principles in building a retaining wall is to have proper drainage from it. Remember, that it is not a dam for water, but simply a wall to retain earth or rock, therefore proper weep holes should be put in so as to relieve a wall from any undue strains of water which may collect from the earth retained. Gravity sections in retaining walls are very expensive and you will find that reinforced concrete may be used for retaining walls to advantage. There are two general forms, one a cantilever type and one a front plate with the addition of counter-forts or buttresses. In reinforced concrete one relies very largely on the strength of steel protected by concrete and as it becomes an engineering problem, one should not undertake a wall of this kind without understanding the theory and having had experience with reinforced concrete which is a comparatively new material to work with, and should only be handled by competent engineers.

STORE BUILDING, L. BAMBERGER & CO.

JARVIS HUNT, ARCHITECT.

THE new Bamberger store is of pure Gothic design. The store front, sills and columns, to a point six feet above the sidewalk, are of granite. The ornamental iron store fronts are carried up to the third floor line meeting the main shaft of the building, which is constructed of mottled cream terra cotta.

A special feature on the street elevations is the high windows. The sill is on a line with the top of the store fixtures on every floor, the window extending from that point to the ceiling, providing all the light possible throughout the building. The window frames and sash provide a constant flow of natural ventilation without a draft and does away with outside awnings. The foundations are of concrete carried to an average depth of 45 feet below grade.

The basement contains an isolated section for the basement and first floor fans. The engine room is on a higher elevation than the boiler and pump rooms, and the power plant and auxiliaries, including an ice making plant, are the most complete of their kind ever installed.

The store is an "L" shaped structure with 144 feet on Market Street, 235 feet on Halsey Street and 177 feet on Washington Street. A passenger and freight tunnel connect

the new building with the old, and a conveyor system transfers the packages from the new building to the receiving room in the old building. A passenger escalator between the two entrances on the Market Street side relieves the sixteen passenger elevators, at a rate of 4,000 people per hour. The passenger elevators are unusually large with door openings the full width of the car. The advantage can only be realized by the comfort in the entrance and exit of same.

On the third floor there is a rest room equipped with every convenience and comfort for the women customers. The spacious and well lighted toilet and washrooms are finished in light cloud Vermont marble.

The public restaurant on the 5th floor is a special feature. The walls, ceilings, and columns are finished in pure white. The floor is of gray and white hexagon tile of a special design. One section of the restaurant is set aside as a smoking room, and is so thoroughly ventilated that smoke is never discernible in the room. The kitchen, contains every modern improvement and has both natural and mechanical ventilation.

The auditorium on the 6th floor has a seating capacity of 600. The stage, dressing rooms, toilets and perfect ventilation makes this auditorium one of the most up-to-date and complete of its kind.

The firms' offices and the accounting department are on the Market Street side of the 7th floor. The windows on this floor are of a larger type than the other floors to provide all possible light for the accounting and office departments. The balance of the floor, separated from the office section by a terra cotta partition, is used as a receiving and shipping room.

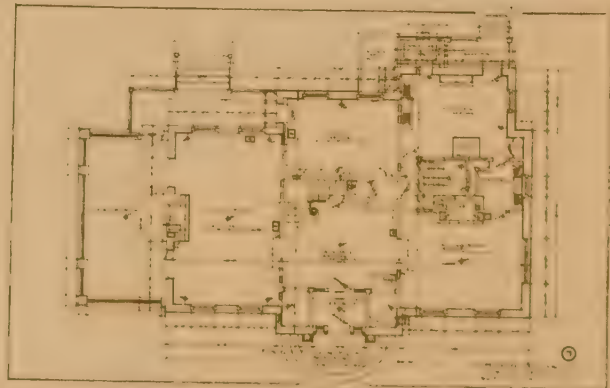
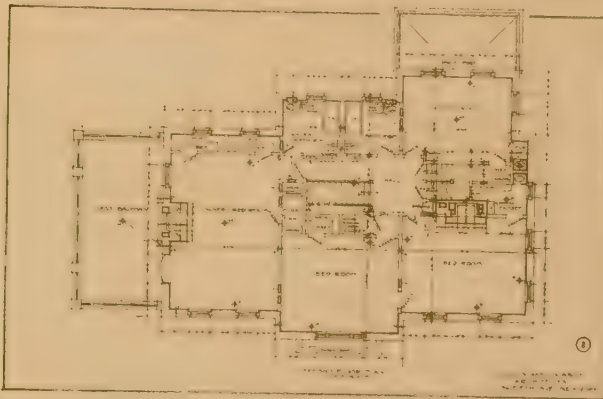
On the Washington Street side of the 8th floor a fur vault divided into two sections with separate vestibules and individual coil and fan room is installed of reinforced concrete construction, and with every up-to-date mechanism, and having a capacity of over 30,000 garments. On this floor a restaurant of spacious dimensions is installed for the employees of the store. The kitchen adjoining is complete with every modern improvement. An employees' hospital of two rooms adjoins the restaurant. The wainscot and floors are of white tile.

The entire roof space is a promenade deck for recreation for both employees and customers, which provides a splendid panoramic view of Newark, the Orange Mountains and suburbs. The entire area is covered with red vitreous tile, forming a smooth, even surface throughout. Eight sawtooth skylights project above the roof line, providing a flow of sunlight at all hours in the fitting and workrooms below.

A recreation room is now being erected on the roof, equipped with library, manicuring room and every up-to-date convenience for the comfort of the employees.

There is a fact worthy of note that the architect and owners have insisted on a high grade of materials and workmanship. The attractive exterior is obtained through the wise combination of ornamental iron by Winslow Brothers' Company, decorative terra cotta furnished by the Federal Terra Cotta Company and fire brick by the Rfotenhauer-Nesbit Company. This modern commercial building has a decided advantage over the old style department store in point of safety and cleanliness. Dahlstrom Products and Mississippi Wire Glass are used in safeguarding against fire and the Spencer Turbine Cleaner System is operated

(Continued page 255)



HOUSE AND PLANS, JOHN W. DICKINSON, SCARSDALE, N. Y.

Upjohn & Conable, Architects.

(Continued from page 253)

throughout the building in settling the dust problem. "Russwin" Hardware was used throughout.

The escalator and passenger elevators are of Otis make. The building is heated with American Radiators and the kitchen equipment was furnished by Bramhall-Deane Company. The plastering was done by Cathcart & Kissell and the plumbing contract executed by Jaehnig & Peoples, Inc.

THE BUILDING OF BRICK.

WHY are not country and suburban homes more frequently built of brick. At first one might feel like replying that many of them are so built, but a moment's reflection and a mental survey of the suburbs, even the most beautiful, with which he may be familiar will convince him that in only a very few instances, comparatively, is the suburban or country home constructed of brick unless the house be much larger and more costly than the average, says Robert H. Van Court in *American Homes and Gardens*.

If the vast majority of our suburban houses are of wood, it is very largely because wood is the cheapest material with which to build. Perhaps it would be more correct to say that the initial cost is much less than that of any other building material. This is an age that has encouraged shams—in the striving for the maximum effect at the minimum cost—of building for to-day rather than for to-morrow and of being satisfied with what is attractive and temporarily effective, rather than of striving for what is intrinsically good and will grow more beautiful and consequently more valuable with the passing of time. In order to obtain rooms of a given number and size and furnishings of a certain sort, so many home-builders have in times past been willing to substitute frame for brick as the material with which to build.

Then, too, brick is not more generally used because it is not quite thoroughly understood in America. The country has been very quickly settled and built up—villages have rapidly grown into cities—and brick has been seized upon and used chiefly because it is the least expensive material, the use of which will comply with the municipal building laws. The result is that it has been so extensively used for constructing factories and other unsightly buildings, that the very mention of a brick house brings to mind some hideous structure with which one may be familiar. Still another reason is, that until very recently our architects have given very little attention to the study of brick building. Too often it has been regarded as a cheap substitute for stone and thus forced into a use for which it is not adapted, for we seem to have forgotten that brick has had a long and honorable history and possesses an entire school of traditions of its own. We may think of the beautifully mellow and time-stained brickwork of Italy, France and England, and sigh because such effects belong to other countries and bygone ages, forgetting that much of the grace and beauty of such building may be ours if we will but use the materials at hand with which to create it.

Many of us think that wood is the cheapest of building material, but, after all, is it? The initial cost is the least, but a frame building begins almost at once to demand repairs, and these repairs become more and more costly as the age of the house increases. It must be painted every year or two to keep it in presentable order, and any failure to make these repairs promptly results in a rapid depreciation in value. A frame house is difficult to heat and to heat it at all involves

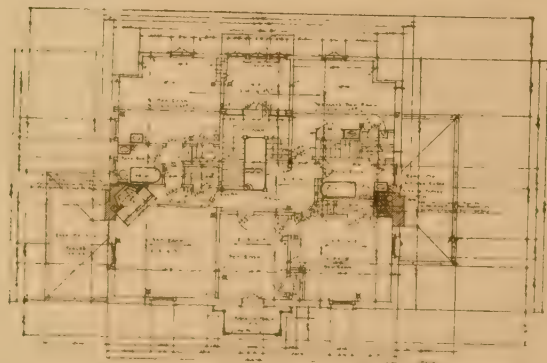
a heavy outlay for fuel, while in summer it is much warmer than a house of brick and consequently much less comfortable. A frame building is of course highly inflammable and insurance companies have learned to their cost, that a frame house once on fire is almost invariably a complete wreck and therefore a loss, and their rates for insurance are naturally higher. In a few years the added cost of these items may amount to much more than the difference between what the house cost and what it would have cost had it been built of brick or even of stone.

Brick as a building material seems to answer every demand. Being made of clay, it can be and is produced in almost every part of the country. It has been subjected for days to a furious heat while being baked and is therefore fireproof, and its use keeps down the insurance rate. A brick house is not difficult to heat and the fuel bill will be one-third less than if the house be frame, and being cooler in summer, it is more comfortable during the heated periods of our American summers. But our homes are now being built for beauty as well as for comfort, and economy now has a meaning other than mere cheapness, for what is merely cheap and ugly, and uncomfortable because cheap, is really after all the most costly in many ways—all this by way of preamble to saying that brick is the most beautifying and satisfying building material within the average man's means.

Let us suppose that the prospective builder fully realizes that brick possesses so many advantages, material as well as artistic, that he is prepared to pay the added cost, charging the difference against the credit item created by the reduction in the cost of heating, insurance, painting, repair and general upkeep. He finds a vast array of styles awaiting his selection—the variety is fascinating, for if we except Gothic, which is to a great extent a style adapted only for buildings of stone and which in any case is rarely if ever used for domestic architecture, there is no style of building which cannot be suitably interpreted in brick and for which precedent and tradition do not offer examples. The Italian style which just now is so deservedly popular is more frequently and perhaps more properly developed in brick than in anything else. The English and German domestic types find their most beautiful expression in cottages of brick, and the very words suggest pictures of time-worn, ivy-covered houses of half timber which are beautiful, not in spite of their age, but because of it, and usually these cottages are of brick of some of the many kinds which the old builders understood so well and with which they wrought so lovingly.

Brick is particularly interesting as a building material because it possesses a certain "human" element. It seems to respond to almost any architectural humor, grave or gay, and is quite as pleasing and beautiful of plain dark red modestly trimmed with white stone at Independence Hall, as when of pale buff with diaper pattern subtly suggested by darker headers at Madison Square Garden. This "responsive" quality renders its application to domestic building particularly successful, for brick seems to sustain the note in which the home is set, whether it be the dignified beauty and reticence of English Tudor or Jacobean, or more intimate cottage styles of Germany or France. It is particularly adapted for building homes in what we call the "Colonial" styles, for brick was used in all the American colonies where such expense could be met and excellent examples of such buildings are readily recalled, from the Hancock house in Boston, to the Dutch architecture of New York with its

(Continued page 257)



THE FLOOR PLAN
OF THE HOUSE

SECTIONAL ELEVATION
OF THE HOUSE
SHOWING THE
POSITION OF THE
ROOF AND THE
POSITION OF THE
CHIMNEY



HOUSE AND PLANS, MRS. SARAH BARR, RYE, N. Y.

Satterlee & Boyd, Architects.

(Continued from page 255)

houses of brick "brought from Holland," then through Maryland and Virginia with their stately brick manor houses to the French and Spanish buildings of Louisiana.

The texture of the brick made to-day is of great variety, and even a greater variety of coloring is obtainable, ranging from the palest gray or buff through all the long range of colors into the deeper browns and greens which shade imperceptibly into black. Between these extremes there are the most beautiful shades of grays, tans and blues, and every color imaginable, and the variety in size and shape is very nearly as great as the variety in coloring and texture. Besides all this there are many different methods of using brick—an endless number of "bonds" adapted or borrowed from antiquity which produce effects of light and shade by projecting or recessing certain courses or even certain units of decoration to produce variety of effect. More beautiful than all these, however, are the wonderful results obtained by combining brick with mosaic, tiles, terra cotta, majolica or the other materials in which bas relief or modeled ornament is produced. The building of the plaques or panels of ivory-tinted plaster or colored majolica into walls of rough-surfaced brick of different color produces effects always unbelievable.

But the advantages of brick as a material of which to construct the house, are not confined to its use in external work, for some of the most interesting and distinctive uses for brick are for interiors. Some particularly beautiful vestibules are being paved, lined and ceiled or vaulted with varicolored brick, and an especially interesting example is found in New York, where the beauty of a wonderful facade of brick in mediaeval color effect is repeated and emphasized in the treatment of a large and deep vestibule or hall where the idea of inexpensive richness worked out in brick is developed in a most wonderful way. Brick in many forms is used for flooring, terraces, verandas and pergolas, and it is often used for halls, libraries or dining-room, or in other rooms where a solid and dignified effect is desirable, but even more successful is its use for the facing and lining of fireplaces and even for building mantels. There are perhaps no more successful mantels being made than those which are constructed wholly of brick, especially made in suitable design, size and shape, and merely set in place by the workman. The corbels or brackets which support the shelf are of brick, and the shelf is frequently one very large thin brick. One might suppose that this would produce a very rough, crude effect much more suitable for a mountain camp or a bungalow in the woods, than for a suburban or country home, but just the opposite effect has been secured in several cases which have come to our notice. We remember one particularly beautiful dining-room with woodwork of white enamel and richly furnished with old mahogany. This wonderfully attractive room was floored with large dark red brick of the sort known as "quarries," while the deep fireplace was lined and faced with a very long narrow brick of a most beautiful rough surface colored a blue gray.

But any plea for brickwork in country or suburbs would be incomplete, without at least a suggestion of its beauty in the garden or the grounds which surround the home. The well-known gateways at Harvard with their beauty of wrought iron and walls and pillars of brick are among the earliest and most successful of good brick building in America during the past twenty-five years. These entrances to the Harvard campus may well offer a suggestion for

the entrance to the grounds—large or small—of a suburban home, for such is the nature of brick, that the smallest and simplest piece of building may possess a charm and beauty out of all proportion to its cost if the designing be carefully thought out and the work done with the art of a true craftsman. Then the walls which should surround every well-regulated garden or which should certainly screen every well-designed service entrance combine beauty with utility when built of brick, and if the buildings themselves are of brick and if the entire composition possesses that unity of effect which is the secret of all skillful designing, the result may be beautiful indeed. The use of brick for walks and garden paths is too obvious to require mention, but a word should be said regarding garden accessories, the selection and placing of which do so much toward making the garden the spot of beauty which it should be. Small pools for lillies or other water plants are often lined with brick for it has been found that brick, particularly of a dark color, affords an excellent background for growing plants and seems to deepen the basin in which the water is held. Fountains of any kind are particularly beautiful with brick as a setting, and some very successful wall-fountains have been arranged by planning a background or setting of brick for some fragment of old marble or even a good cast of heavy plaster or terra cotta suitably treated, the design being of dolphins, a lion's head, or even merely a decorative molding around a piece of small pipe.

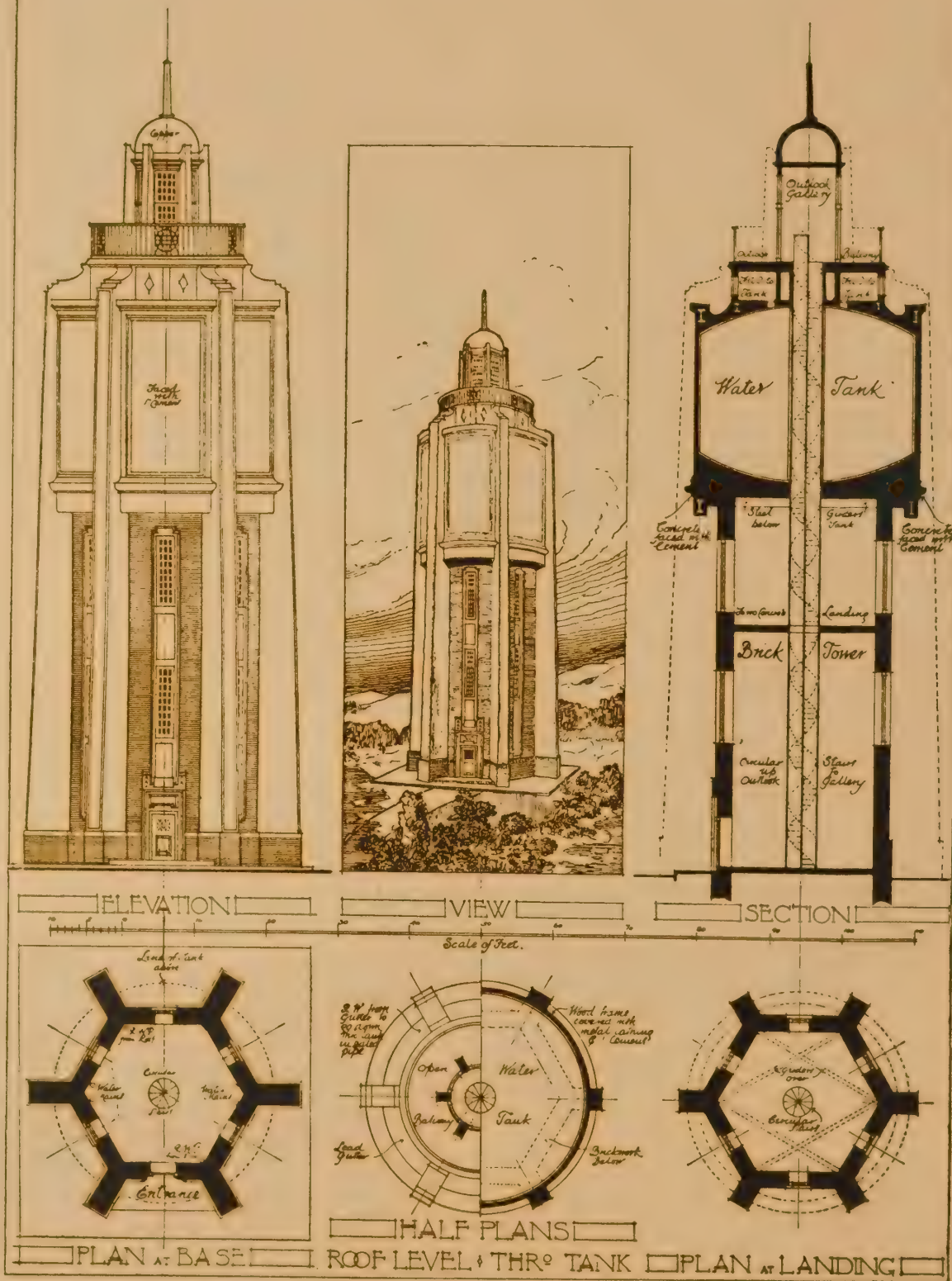
TRUTH IN ARCHITECTURE.*

A GENERATION ago, Ruskin, "from whose lips flowed speech sweeter than honey," in the "Seven Lamps of Architecture," laid down the principle that truth should be observed in all good architecture, but found difficulty in drawing the line between reprehensible and excusable architectural falsehood. Nevertheless, the idea of truth as a principle in architecture still survives, somewhat expanded into the idea of "sincerity" the belief that not only should the structure and decoration of a building be what they seem to be, but that both the structure and decoration should betray the purpose for which the building is used, and the functions of its various parts. Thus a dome should not be placed on top of a building that has no great central hall within, to which the dome serves as covering and of which it is the aesthetic indication. In brief, the exterior should be the natural, almost necessary, outgrowth of the interior, as the interior is the outgrowth of the uses to which the building is to be put; and the parts of the structure in detail should have a structural, as well as an aesthetic, function to fulfil. All of which is true enough, with some reservations.

Besides the utilitarian aspect of architecture, in which the essential requirement is that a building must serve its purpose, from an aesthetic point of view there are two considerations: first, it must be pleasing to the eye; and second, it must not offend the judgment. Both of these are variable quantities. It is notorious that we like what we are accustomed to see; and, moreover, the judgment of the engineer and that of the untaught layman would differ as to the adequacy of a steel truss to support the roof of a railroad station. The most complete architectural untruth is obtained by means of paint. Whether the paint is used to imitate

(Continued page 259)

*An address delivered before the students of the School of Architecture of Washington University.



Continued from page 257

the grain of the wood or the veining of marble, the imitation can be so perfectly done that the eye cannot detect it. As long as it remains undiscovered no great harm is done, but once found out, there is no doubt a revulsion of feeling in the spectator that goes far to neutralise any pleasure that may at first have been felt. In some Italian churches the columns are of colored marble as high up as they are likely to be damaged; above that point, they are of plaster, painted to imitate the marble so cleverly that the line of junction of the two materials can be distinguished only by the touch, the cold "feel" of the marble at once identifying it, not at all by the eye. There is no doubt that as soon as this fact is discovered, the impression is received that all Italian Renaissance church interiors are scenic decorations, pretty enough, perhaps, but evanescent, built like exposition buildings to be pulled down at the end of the season. So with the paintings of architectural accessories. Even Ruskin had to admit the beauty of the Sistine Chapel, where the figures of the arched ceiling are set in a framework of painted columns and pediments and architraves. These, however, he points out, are not "realized," are not painted so that we think they are really columns and architraves, but that we see at a glance that they are only pictures of columns and entablatures, as clearly as we recognize the figures to be pictures of men, and not real men sprawling on the ceiling. So that there is no deception to discover, no shock to the judgment, and the eye enjoys the pleasures of the work undisturbed. A similar case occurs in the Stanze of the Vatican, where the lower part of the walls is painted with what are evidently pictures of architectural objects, used as a *dado*. A very different effect is seen in such a church as the Cathedral of Ferrara, where the whole interior is of plain, flat plaster, but painted to produce a deceptive semblance of columns and statues and other architectural parts, easily detected, and laughable to all but the sternest moralists, who find them "reprehensible." A large part of our contemporary architecture, especially of the monumental kind, is admittedly superficial. Our stone buildings are really brick buildings, with an outer facing of stone. The Classical ordonnances of the exterior have but little to do with the real construction, and on this ground they are denounced by purists. Criticism is just in this case, but why denunciation? If we are Romans in taste rather than Greeks or Mediaevals, how can we help it? Personally I prefer more constructive styles to the Roman, but it is hardly a matter for profound emotion either way. As for the exhibition outside of a building of what is occurring inside, it is agreeable when it can be done, but not always practicable and very often not practiced. Take the Hotel de Ville in Paris, for example, a building that is generally admired by both the unsophisticated and the *illuminati*. The high roofs of the central and flanking pavilions might be shorn off and flat roofs substituted without impairing in any way the interior working, nor are there any special rooms inside of which the importance is marked by these high roofs. The parts of the building between the pavilions are lighted by dormer windows, alternately of stone and bronze. The dark bronze frames of the intermediate dormers merge into the dark slate behind so that only the stone ones are noticeable. If all had been of stone they would have coalesced to form a continuous wall. Why should it not have been a continuous wall, carried up to the height of the pavilions, and included under the same flat roof? But that would destroy the design, you say. Truly it would; yet this is to admit that the design

is a purely artificial and supererogatory thing "tacked on" on top of the building, merely to be looked at. After all, why should it not be? The greatest works of architecture in all ages have been built largely to be looked at. What are all the towers of the Middle Ages for? Some few of them for defence, but of the rest what can we say—to hang bells in? But many Renaissance churches have bells in some unnoticeable corner which seem to serve their purpose as well as if they were in a tower. Moreover, if we must have bells in a tower, why should we have two towers, as is so often the case in mediaeval churches and as is still seen to-day? One of the towers must be superfluous. Whether one or two, how can we justify a spire on the top of towers, an undeniable superfluity? Or, to pass to another matter, what shall we say of the great, stone-vaulted ceilings that were the crowning glory of Gothic architecture? They were begun in an effort to make a fireproof basilica, but before they were developed to perfection a separate wooden roof over them was found necessary, leaving the vault and the flying buttresses that sustain it a piece of pure theatricalism. To go still further back to the masters of the world in art, the Greeks, what justification was there for the peristyle of great columns wherewith they encompassed their more important temples? That the service of the gods did not depend upon a peristyle is shown by the number of temples that had none. The peristyle was built like the Gothic spire, chiefly to be looked at. No doubt, having constructed it, the people could walk in it, conduct processions in it, but they got along without it very well in innumerable cases. Why not in all? And in detail the Greek temple is as much open to criticism, if we are disposed to criticise. A cornice is constructively the edge of a roof, intended to throw the rain-water clear of the building, and the Greeks so used it at the sides of a building; but they carried it up the slope of the roof as well, where it was not of any use. Or, if we let that pass, what shall we say of the horizontal piece of cornice they carried across under it, forming the triangular pediment? They used it as a shelf on which to put statues, and, as such, one would think that they would at least have made it strong enough to hold the statues. Recent investigations show that they did not—that the weight of the statues was taken by iron supports fixed in the wall of the pediment behind them. The truth is that these cornices, and almost all cornices since, including those of the Strozzi and Farnese palaces, were built simply for looks, and they undeniably look well. The same is true of most intermediate cornices, stringcourses and base courses. They are used because they look well. Their fancied utility constructively is only fancied; a plain, flat wall where there is no offset would serve the purpose better. The only conclusion is that it will not do to be too hasty in laying down general principles, nor to allow ourselves to become arbitrary in advocating our ideas. Truthful construction, expressive design, may be admirable, but if a little untruth, a little less expression, make the result more admirable, why not use them? "That indignation which we profess to feel at deceit absolute is indeed only at deceit malicious." And there is no malice in architectural equivocation.

LESLIE N. IREDELL, architect, has removed his offices to Suite 720-722 Littlefield Building, Austin, Texas. Samples of building materials, together with manufacturers' catalogues, are requested.



Black, Starr & Frost Building.

Carrere & Hastings, Architects.

Smith Service
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Architectural Woodwork
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Banks and Offices
Churches, Stores



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Howard Greenley, Architect.

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